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Kesson

LOVAC

Power Drain

A Marvelous Advance in Postoperative Drainage



EVERY surgeon has felt the great need of a better method of post-operative drainage — of producing and maintaining a very active outward flow of fluids and toxins from an infected area. He realizes that effective drainage after an operation is his only hope of saving some cases. Yet capillary or gauze drains are quickly saturated and occluded and soon fail to function. They may even prevent adequate drainage of pus. A rubber tube, on the other hand, does not attract fluids but provides a space for pus requiring pressure to force it to the surface. Such is the common situation in peritonitis or deep seated abscesses.

In the drainage of pancreatic fluid, removal of each drop at the point of excretion is of paramount importance to prevent digestion of the drainage tract. The obvious solution is to remove the drainage fluids from the bottom of the wound by gentle continuous suction. No satisfactory device for this purpose has heretofore been available.

Extensive Clinical Tests

During the period of development, tests, and clinical use, this apparatus was employed in a large variety of cases. As anticipated, it was found particularly useful after prostatectomy for removing the urine from the bladder and keeping the wound and dressings dry. Many such cases proved its general adaptability to this field.

In the drainage and evacuation of the pleural cavity with and without rib resection for empyema, it was tried in many cases. It was credited with saving the life of one 22 months old child by restoring respiratory function to the affected lung and relieving alarming cyanosis and persistent exhausting cough. In this early series of test cases were many others less spectacular but in all most satisfactory in its results.

In drainage of the abdomen for peritonitis and pelvic abscess, it was observed that the quantity of fluid drained ran parallel with the fluid intake by mouth, intravenous, etc., and that the general condition of the patient bore a rather definite relation to the quantity and character of drainage which was so easily measured and observed in the collecting bottle.

These and many other test cases show that new possibilities in the drainage of bile, pus and urine may be anticipated from the use of Lovac—the Power Drain. No special drainage tubes were used other than those commonly found in hospitals.

LOVAC = a better

Advantages to the Patient

The Lovac secures better drainage than is possible by any other means. It removes the fluids from the bottom of the wound and shortens the drainage period of convalescence. In certain cases, this may mean the saving of life while in others, only a reduction of the drainage period. The dressings and wound in most cases are kept clean and dry by removing the pus, urine, bile or pancreatic fluid, before it comes into contact with the skin. The elimination of wet dressings, excoriated skin, sluffing wounds and disagreeable odors adds immeasurably to the comfort and morale of the patient. It reduces the number of dressings, favors earlier healing and fosters that hopeful attitude so difficult to secure and maintain under these circumstances. The patient marvels at the mechanical perfection of the device, which works while he sleeps.

Hospital and Nursing Advantages

Lovac eliminates odors and the necessity of attention to the hospital and to the nursing staff. This is most noticeable after prostatectomies, in peritonitis and in empyemas where the odors of urine or pus are marked and are carried for considerable distances.

With this treatment, the patient appreciates that an extraordinary method is being applied to relieve his condition and is more satisfied with his hospital service.

Lovac pays for itself over and over in the saving of dressings alone while conserving much nursing time and care in these cases.

Mode of Operation

Lovac consists of a motor carefully constructed to be very quiet in operation so as not to disturb the sleep of the patient. It sounds like a kitten gently purring under the bed and is rarely heard by the patient. A self lubricating pump of suitable speed and size occupies the end of the motor. The motor is mounted on the best ball bearing casters, so that the whole unit is easily moved about without danger of being upset. The half-gallon bottle is provided with a cap and spring bail to hold it in place. The degree of vacuum produced by the pump and communicated to the bottle and the patient may be adjusted with the suction regulator which is graduated from 0 to 40 m. m. mercury. Higher vacuum may be obtained by completely closing the regulator. At the end of the suction tube is a metal tip, which is attached to the catheter or rubber tube in the wound or cavity to be drained.

The motor operates from the ordinary electric light socket using the same amount of current as a 100 watt lamp. As the motor creates suction, the degree of vacuum remains constant wherever the suction regulator is set, gently and slowly drawing fluid from the wound. Air also enters the bottle through the suction regulator to prevent more vacuum than required.

Method of drainage

If the suction tube is connected to a cavity so that it is air-tight, then this vacuum tends to collapse the walls as is the case of its use in the pleural cavity. This is a closed drain and the suction required is from 5 to 30 m. m. of mercury.

But when the suction tube is placed within a cigarette drain or rubber tube, then no suction is exerted upon the tissues. Only the fluids are evacuated from the bottom of the wound and the regulator may be completely closed by tightening as far as possible. This is the situation in the open drains. Special drainage tubes may be employed, but ordinary ones are satisfactory. While the pump is in operation, it is automatically lubricated by a very simple and efficient circulating system.

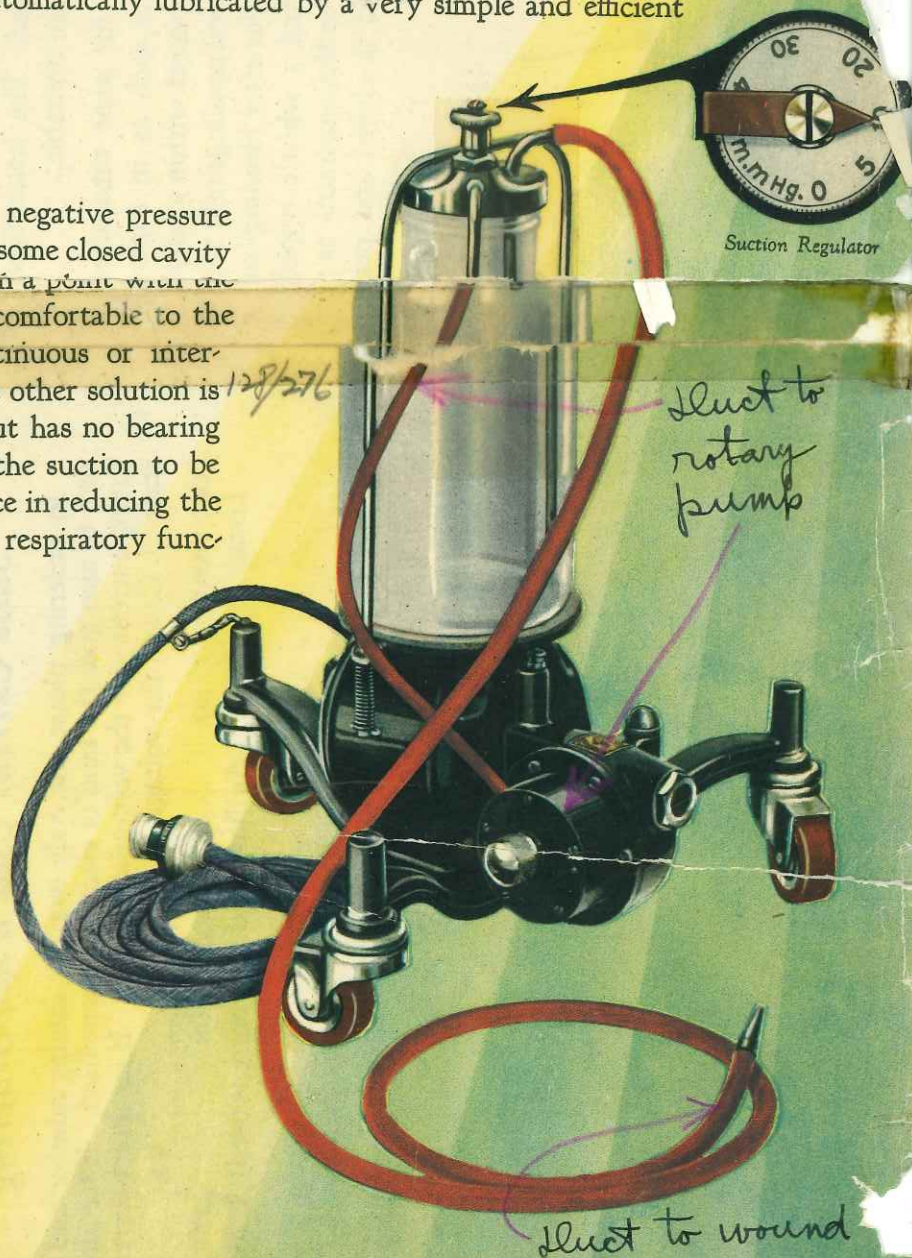
Closed Drains

Closed drains are those in which a slightly negative pressure is to be applied directly from the apparatus to some closed cavity. In these cases the amount of suction is set at such a point with the suction regulator as to be both effective and comfortable to the patient. Whether it is combined with continuous or intermittent irrigation with Dakin's, saline, or some other solution is a detail of treatment and drain construction but has no bearing upon the Lovac maintenance of drainage or the suction to be used. In Empyema, vacuum is of special service in reducing the size of the pleural cavity and in restoring the respiratory function to the lung of the affected side.

Open Drains

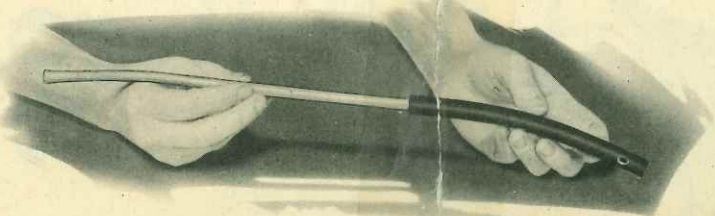
Most abdominal and tissue drains are open drains, and no suction is, or can be put upon the tissues regardless of the setting of the control valve. In the construction of these drains, a central rubber tube to be connected with the apparatus is placed within a larger rubber drainage tube, wick, cigarette drain or Penrose tube, so that the drainage fluids are evacuated from the deeper points of the cavity or wound through this suction tube and not permitted to overflow the wound and soil the dressings.

The suction tube of such drains may be

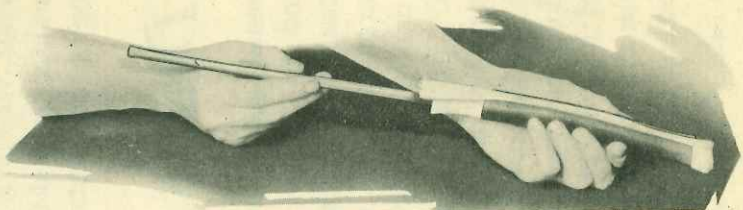


ipped catheter or simply a small rubber tube with two holes cut in the sides very near the distal end. Surrounding this suction tube may be a larger rubber tube which provides space for the entrance of air under the dressings and is fixed to the suction tube with a safety pin. Or the suction tube may be wrapped with a wick of gauze and rolled into a suitable sheet of thin rubber tissue or pulled through a very thin Penrose rubber tube. If three layers of gauze are rolled around the suction tube with the rubber tissue so as to form alternate layers of rubber and gauze and with the gauze extending slightly beyond the free edge of rubber along its side, then this laminated drain will act its full length to keep the tract, as well as the deep cavity, evacuated. The latter type of cigarette drain often proves to be the more desirable.

Where oozing of blood may continue for some time after the operation with formation of blood clots such as in suprapubic prostatectomy, the suction tube is placed within a large shielding rubber tube with one or two lateral openings near the end. This permits removal for cleaning. But after bleeding has stopped, the larger tube may be removed and a whistle tipped catheter through the urethra is attached to the apparatus as a closed drain while the suprapubic wound is closed and permitted to heal at once.



Open Tubular Drain with Catheter Inside



Laminated Cigarette Drain with Catheter Core

State Current Used When Ordering

In ordering please use code word or catalog number and be sure to also give the kind of electric current used. If for alternating current give the voltage and cycles. If for direct current, state D. C. and the voltage.

CODE WORD	CAT. NO.	DESCRIPTION	PRICE
Lovac	540	As illustrated (give current used)	\$120.00

Manufactured by

Toledo Technical Appliance Co.

Toledo, Ohio, U. S. A.

The McKesson LOVAC

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Closed Drains

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Open Drains

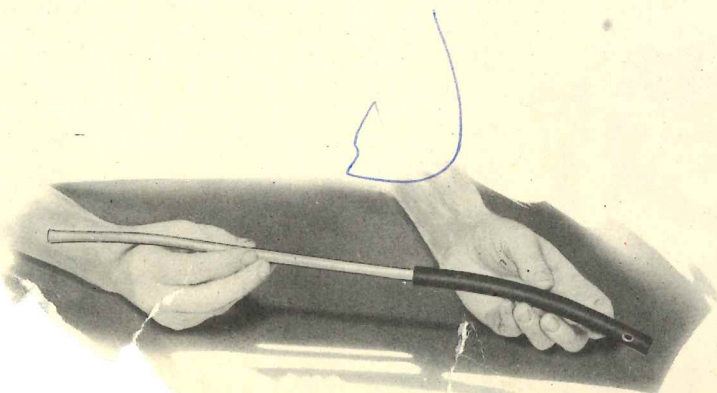
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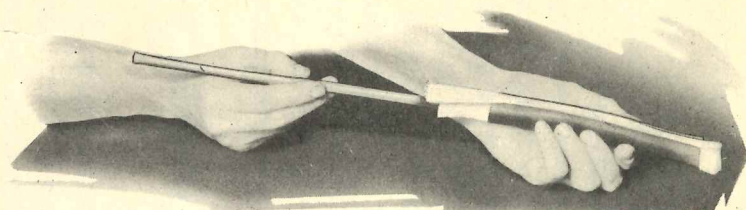
a whistle-tipped catheter or simply a small rubber tube with one or two holes cut in the sides very near the distal end. Surrounding this suction tube may be a larger rubber tube which leaves space for the entrance of air under the dressings and transfixed to the suction tube with a safety pin. Or the suction tube may be wrapped with a wick of gauze and rolled into a suitable sheet of thin rubber tissue or pulled through a very thin Penrose rubber tube. If three layers of gauze are rolled around the suction tube with the rubber tissue so as to form alternate layers of rubber and gauze and with the gauze extending slightly beyond the free edge of rubber along its side, then this laminated drain will act its full length to keep the tract, as well as the deep cavity, evacuated. The latter type of cigarette drain often proves to be the more desirable.

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